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| EXAMINER |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _02 May 2007_.

2a)☒ This action is **FINAL.**  2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-31_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-31_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _22 August 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All  b)☐ Some *  c)☐ None of:

       1.☒ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 05/02/2007 have been fully considered but they are not persuasive.

1. On Page 9 of the arguments section, the applicant alleges that the Kitajima reference fails to teach the calculating of the color temperature as recited in claims 1 and 15. The examiner respectfully disagrees with this assertion.

In the examiner's opinion, the Kitajima reference teaches calculating a color temperature for processing the first image using at least color temperature information of the first image, wherein the color temperature is calculated based on a light amount information detected from the first image. Kitajima teaches that during image capture, color temperature information data for when the strobe light arrives and when the strobe light does not arrive is sensed by the color measuring sensor and input into the CPU 12. The CPU 12 calculates the color temperature value needed to correct the gain. The CPU 12 is used as the AWB control value decision means. The color gain is corrected by this AWB control value for the pixel at which the strobe light does not arrive and for the pixel at which the strobe light arrives, **Column 5, Lines 21-63 and Column 6, Lines 14-63**.

The examiner believes that claims 1 and 15 can still be rejected based on the cited art.

### *Specification*

Claims 1 and 15 are objected to because of the following informalities:

In claims 1 and 15, "wherein the color temperature is calculated based on **the**

light amount information detected from the first image" needs to be changed to "wherein

the color temperature is calculated based on a light amount information detected from

the first image". The change is needed since there is no prior mentioning in the claim of

the specific light amount information being detected from the first image.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-31 are rejected under 35 U.S.C. 102(b) as being anticipated by**

**Kitajima (US Patent No.: 5808681).**

*In regard to **Claim 1**, Kitajima teaches of a method of controlling an image*

*sensing apparatus, which has an image sensor **(Column 4, Lines 44-46)**, a flash light*

*used to illuminate an object with light (Strobe 10 in **Figure 1**), and an image sensing*

*instruction unit (the CPU 12 from **Figure 1**), comprising:*

*sensing a first image while causing the flash light to emit light in response to an*

*image sensing designation by the image sensing instruction unit (The CPU 12 (image*

*sensing instruction unit) causes a strobe 10 to emit a flash of light for performing a first*

*exposure in response to an object area to be photographed,* **Column 6, Lines 14 et**

**seq.)***; and*

*calculating a color temperature for processing the first image using at least color*

*temperature information of the first image (Color temperature is used for processing the*

*first image (image captured in first exposure when the strobe light is emitted) by the*

*data processing section 6. The data processing section 6 corrects the color gain by the*

*AWB control value for the strobe light for the object area (image) at which a strobe light*

*is used,* **Column 6, Lines 14 to 63***. The gain for each color signal is controlled*

*according to the color temperature information,* **Column 1, Lines 51-59)***,*

*wherein the color temperature is calculated based on a light amount information*

*detected from the first image (image captured in first exposure when the strobe light is*

*emitted) (The CPU 12 calculates the color temperature value needed to correct the*

*gain. The CPU 12 is used as the AWB control value decision means. The AWB control*

*value is used to correct the gain for the pixel at which the strobe light does not arrive*

*and for the pixel at which the strobe light arrives,* **Column 1, Lines 51-59, Column 5,**

**Lines 21-63 and Column 6, Lines 14-63)***.*

*Regarding* **Claim 2***, Kitajima teaches of the method according to claim 1, further*

*comprising determining whether or not to sense an image using the flash light (The*

CPU 12 decides (instructs) whether to sense an image using the strobe light (flash light) or not to sense an image using the strobe light (not emit light from strobe), **Column 6, Lines 24-32)**.

In regard to **Claim 3**, Kitajima teaches of the method according to claim 2, further comprising storing a second image obtained immediately before the emission of the flash light in a storage device **(**The CPU 12 instructs a performance of a second exposure (second capturing of image) when there is no emission being performed by the flashlight (strobe). The image data is stored in the frame memory 5, **Column 6, Lines 25-33)**.

wherein in said calculating of the color temperature, a color temperature of the first image (image where strobe is used) is calculated using the first and second images **(**The calculation of the color temperature (AWB control value) of the first image (image where strobe is used) is calculated using the first and second images because the AWB control value is selected according to the ratio of the image data obtained in the first exposure versus the image data obtained during the second exposure (a/b). The ratio of the image with a strobe light and without a strobe light will yield the result of the color temperature of the first image which was captured using a strobe light, **Column 6, Lines 46-63)**.

With regard to **Claim 4**, Kitajima teaches of the method according to claim 3, wherein the second image is an image obtained before the emission of the flashlight in response to the image sensing designation by the image sensing instruction unit **(**The second image is an image obtained without the emission of a strobe (flashlight),

*Column 6, Lines 30-33 in response to an image sensing designation (area to be*

*imaged) by the image sensing instruction unit (CPU 12). The CPU 12 determines how*

*much light/no light needs to be emitted onto an object/area to be photographed,*

***Column 16, Lines 12 et seq.)***

*Regarding **Claim 5**, Kitajima teaches of the method according to claim 3, wherein*

*the second image is an image obtained before the emission of the flash light when it is*

*determined to sense an image using the flash light (The second image (image data*

*captured during the second exposure) is an image obtained when no strobe light is*

*used. A determination to sense an image using a flash light was already made during*

*the first exposure, **Column 6, Lines 24-33**).*

*With regard to **Claim 6**, Kitajima teaches of the method according to claim 3,*

*wherein said calculating of the color temperature includes detecting a color temperature*

*of an external light using the second image (When no flash is used to detect a second*

*image, the color measuring sensor 9 from Figure 1 detects a color temperature of the*

*external light (when no strobe light is present, it is inherent that the color measuring*

*sensor 9 detects the color temperature of external light)).*

*In regard to **Claim 7**, Kitajima teaches of the method according to claim 3,*

*wherein said calculating of the color temperature includes detecting a ratio of brightness*

*between the flash light and external light using the second image (The ratio of image*

*data (a/b) obtained when the strobe light (flash light) is emitted (a) to the image data*

*obtained when the strobe light is not emitted (external light) (b) is used to calculate the*

*color temperature value (AWB control value), **Column 6, Lines 46-63**).*

*With regard to **Claim 8**, Kitajima teaches of the method according to claim 1, further comprising applying white balance correction corresponding to the calculated color temperature to the first image (AWB (Auto White Balance) control value is obtained on the basis of the color temperature, **Column 1, Lines 60 to 68**. The AWB control value which is obtained on the basis of the ratio comparison, is used to correct the color gain of the first by applying AWB processing, **Column 6, Lines 46-64**).*

*In regard to **Claim 9**, Kitajima teaches of the method according to claim 1, wherein said calculating of the color temperature includes calculating a color temperature of the flash light using the first image (The first image is taken into account in the ratio (a/b) which is used to calculate the color temperature of the strobe, **Column 6, Lines 30-64**).*

*With regard to **Claim 10**, Kitajima teaches of the method according to claim 1, wherein said calculating of the color temperature includes calculating a ratio of brightness between the flash light and an external light using the first image (The CPU 12 judges (calculates) a ratio (a/b) of brightness between the flashlight (when a/b>1, the pixel is deemed to be in an area where the strobe light fully arrives) and an external light (when a/b is approximately equal to 1, the pixel is in an area at which the strobe light does not arrive). The first image (a) is used accounted for in the calculation, **Column 6, Lines 46-55**).*

*Regarding **Claim 11**, Kitajima teaches of the method according to claim 9, wherein said calculation of the color temperature further comprises:*

detecting a color temperature of external light using the second image *(b in the ratio a/b accounts for the second image in detecting a color temperature of external light, Column 6, Lines 46-55)*;

detecting a ratio of brightness between the flash light and external light using the first and second images *(The ratio of (a/b) represents the first (first exposure with strobe) and second (second exposure without strobe) images and their ratio of brightness (ratio of brightness of light with strobe and without strobe), Column 6, Lines 30-66)*; and

mixing the color temperatures of the external light and the flash light on the basis of the ratio of brightness between the flash light and the external light *(It is inherent that the color temperatures of the external light (when no strobe is used) and the flash light are mixed on the basis of the ratio a/b. The AWB control value, which is based on the color temperature (Column 2, Lines 15-16), is selected according to the value of a/b, Column 6, Lines 58-66. Therefore, the AWB control value accounts for a mix of the color temperatures)*.

In regard to **Claim 12**, Kitajima teaches of the method according to claim 11, wherein said mixing of the color temperatures includes mixing, when an exposure condition upon sensing the first image is different from that upon sensing the second image *(The exposure conditions are different because in the first exposure, the strobe is used and the strobe is not used in the second exposure, Column 6, Lines 30-45)*, the color temperatures by correcting a difference due to the exposure conditions *(It is inherent that the color temperatures of the external light (when no strobe is used) and*

*the flash light are mixed on the basis of the ratio a/b. The AWB control value, which is based on the color temperature **(Column 2, Lines 15-16)**, is selected according to the value of a/b. Therefore, the AWB control value accounts for a mix of the color temperatures and white balance control (correction) can be carried out on the basis of a more appropriate AWB control value, **Column 6, Lines 58-66)**.*

*With regard to **Claim 13**, Kitajima teaches of the method according to claim 11, wherein said mixing of the color temperatures includes mixing, when a sensitivity level of the image sensor upon sensing the first image is different from that of the image sensor upon sensing the second image, the color temperatures by correcting a sensitivity difference. It is inherent that spectral sensitivity is different when the strobe is on in the first exposure when compared to the second exposure when no light is emitted from the strobe. Therefore, by correcting the AWB control value, the sensitivity is also corrected.*

*Regarding **Claim 14**, Kitajima teaches of the method according to claim 11, wherein said mixing of the color temperatures includes mixing, when a spectral sensitivity level upon sensing the first image is different from that of the image sensor upon sensing the second image, the color temperatures by correcting a spectral sensitivity difference. It is inherent that spectral sensitivity is different when the strobe is on in the first exposure when compared to the second exposure when no light is emitted from the strobe. External light has a different spectral sensitivity than a strobe light. Therefore, by correcting the AWB control value, the difference in spectral sensitivities is also corrected.*

*In regard to Claim 15, Kitajima teaches of a controller for an image sensing apparatus, which has an image sensor (Column 4, Lines 44-46), a flash light used to illuminate an object with light (Strobe 10 in Figure 1), and an image sensing instruction unit/controller (the CPU 12 from Figure 1), comprising:*

*a first image sensing controller (CPU 12) which controls to sense a first image while causing the flash light to emit light in response to an image sensing designation by the image sensing instruction unit (The CPU 12 (image sensing controller) causes a strobe 10 to emit a flash of light for performing a first exposure in response to an object area to be photographed, Column 6, Lines 14 et seq.); and*

*a color temperature calculation unit (Color measuring sensor 9 and the CPU 12, Column 5, Lines 45-47) which calculates a color temperature for processing the first image using at least color temperature information of the first image (Color temperature is used for processing the first image (image captured in first exposure) by the data processing section 6. The data processing section 6 corrects the color gain by the AWB control value for the strobe light for the object area (image) at which a strobe light is used, Column 6, Lines 14 to 63. The gain for each color signal is controlled according to the color temperature information, Column 1, Lines 51-59),*

*wherein the color temperature is calculated based on a light amount information detected from the first image (image captured in first exposure when the strobe light is emitted) (The CPU 12 calculates the color temperature value needed to correct the gain. The CPU 12 is used as the AWB control value decision means. The AWB control value is used to correct the gain for the pixel at which the strobe light does not arrive*

*and for the pixel at which the strobe light arrives, **Column 1, Lines 51-59, Column 5,***

***Lines 21-63 and Column 6, Lines 14-63).***

*Regarding **Claim 16**, Kitajima teaches of the controller according to claim 15,*

*further comprising a determination unit which determines whether or not to sense an*

*image using the flash light (The CPU 12 acts as a determination unit that decides*

*(instructs) whether to sense an image using the strobe light (flash light) or not to sense*

*an image using the strobe light (not emit light from strobe), **Column 6, Lines 24-32**).*

*With regard to **Claim 17**, Kitajima teaches of the controller according to claim 16,*

*further comprising a second image sensing controller which controls to store a second*

*image obtained immediately before the emission of the flash light in a storage device*

*(The CPU 12 instructs a performance of a second exposure (second capturing of*

*image) when there is no emission being performed by the flashlight (strobe). The image*

*data is stored in the frame memory 5, **Column 6, Lines 25-33**).*

*wherein said color temperature calculation unit calculates a color temperature of*

*the first image (image where strobe is used) is calculated using the first and second*

*images (The calculation of the color temperature (AWB control value) of the first image*

*(image where strobe is used) is calculated using the first and second images because*

*the AWB control value is selected according to the ratio of the image data obtained in*

*the first exposure versus the image data obtained during the second exposure (a/b).*

*The ratio of the image with a strobe light and without a strobe light will yield the result of*

*the color temperature of the first image which was captured using a strobe light,*

***Column 6, Lines 46-63).***

In regard to **Claim 18**, Kitajima teaches of the controller according to claim 17,

wherein the second image is an image obtained before the emission of the flash light in

response to the image sensing designation by the image sensing instruction unit *(The

second image is an image obtained without the emission of a strobe (flashlight),

**Column 6, Lines 30-33** in response to an image sensing designation (area to be

imaged) by the image sensing instruction unit (CPU 12). The CPU 12 determines how

much light/no light needs to be emitted onto an object/area to be photographed,

**Column 16, Lines 12 et seq.)**

Regarding **Claim 19**, Kitajima teaches of the controller according to claim 17,

wherein the second image is an image obtained before the emission of the flash light

when determination unit determined to sense an image using the flash light *(The

second image (image data captured during the second exposure) is an image obtained

when no strobe light is used. A determination to sense an image using a flash light was

already made during the first exposure, **Column 6, Lines 24-33)**.

In regard to **Claim 20**, Kitajima teaches of the controller according to claim 17,

wherein said color temperature calculation unit includes a unit which detects a color

temperature of external light using the second image *(When no flash is used to detect a

second image, the color measuring sensor 9 from Figure 1 detects a color temperature

of the external light (when no strobe light is present, it is inherent that the color

measuring sensor 9 detects the color temperature of external light))*.

With regard to **Claim 21**, Kitajima teaches of the controller according to claim 17,

wherein said color temperature calculation unit includes a unit which detects a ratio of

brightness between the flash light and external light using the second image (The ratio

of image data (a/b) obtained when the strobe light (flash light) is emitted (a) to the

image data obtained when the strobe light is not emitted (external light) (b) is used to

calculate the color temperature value (AWB control value), **Column 6, Lines 46-63).**

In regard to **Claim 22**, Kitajima teaches of the controller according to claim 15,

further comprising a white balance correction unit which applies white balance

correction corresponding to the calculated color temperature to the first image **(AWB**

(Auto White Balance) control value is obtained on the basis of the color temperature,

**Column 1, Lines 60 to 68.** The AWB control value which is obtained on the basis of the

ratio comparison, is used to correct the color gain of the first by applying AWB

processing, **Column 6, Lines 46-64).**

Regarding **Claim 23**, Kitajima teaches of the controller according to claim 15,

wherein said color temperature calculation unit includes a unit which calculates a color

temperature of the flash light using the first image (The first image is taken into account

in the ratio (a/b) which is used to calculate the color temperature of the strobe, **Column**

**6, Lines 30-64).**

With regard to **Claim 24**, Kitajima teaches of the controller according to claim 15,

wherein said color temperature calculation unit includes a unit which calculates a ratio

of brightness between the flash light and external light using the first image (The CPU

12 judges (calculates) a ratio (a/b) of brightness between the flashlight (when a/b>1, the

pixel is deemed to be in an area where the strobe light fully arrives) and an external light

(when a/b is approximately equal to 1, the pixel is in an area at which the strobe light

*does not arrive). The first image (a) is used accounted for in the calculation, **Column 6,
Lines 46-55).***

*In regard to **Claim 25**, Kitajima teaches of the controller according to claim 23,
wherein said color temperature calculation unit comprises:*

*a unit (CPU 12) which detects a color temperature of external light using the
second image (b in the ratio a/b accounts for the second image in detecting a color
temperature of external light, **Column 6, Lines 46-55);***

*a unit (CPU 12) which detects a ratio of brightness between the flash light and
external light using the first and second images (The ratio of (a/b) represents the first
(first exposure with strobe) and second (second exposure without strobe) images and
their ratio of brightness (ratio of brightness of light with strobe and without strobe),
**Column 6, Lines 30-66); and***

*a unit (CPU 12) which mixes the color temperatures of the external light and the
flash light on the basis of the ratio of brightness between the flash light and external
light (It is inherent that the color temperatures of the external light (when no strobe is
used) and the flash light are mixed on the basis of the ratio a/b. The AWB control value,
which is based on the color temperature **(Column 2, Lines 15-16)**, is selected
according to the value of a/b, **Column 6, Lines 58-66**. Therefore, the AWB control
value accounts for a mix of the color temperatures).*

*Regarding **Claim 26**, Kitajima teaches of the controller according to claim 25,
wherein when an exposure condition upon sensing the first image is different from that
upon sensing the second image (The exposure conditions are different because in the*

first exposure, the strobe is used and the strobe is not used in the second exposure,

**Column 6, Lines 30-45)**, said mixing unit mixes the color temperatures by correcting a

difference due to the exposure conditions *(It is inherent that the color temperatures of

the external light (when no strobe is used) and the flash light are mixed on the basis of

the ratio a/b. The AWB control value, which is based on the color temperature **(Column

2, Lines 15-16)**, is selected according to the value of a/b. Therefore, the AWB control

value accounts for a mix of the color temperatures and white balance control

(correction) can be carried out on the basis of a more appropriate AWB control value,*

**Column 6, Lines 58-66)**.

With regard to **Claim 27**, Kitajima teaches of the controller according to claim 25,

wherein when a sensitivity level of the image sensor upon sensing the first image is

different from that of the image sensor upon sensing the second image, said mixing unit

mixes the color temperatures by correcting a sensitivity difference *It is inherent that

spectral sensitivity is different when the strobe is on in the first exposure when

compared to the second exposure when no light is emitted from the strobe. Therefore,

by correcting the AWB control value, the sensitivity is also corrected.*

In regard to **Claim 28**, Kitajima teaches of the controller according to claim 25,

wherein when a spectral sensitivity level upon sensing the first image is different from

that of the image sensor upon sensing the second image, said mixing unit mixes the

color temperatures by correcting a spectral sensitivity difference *It is inherent that

spectral sensitivity is different when the strobe is on in the first exposure when

compared to the second exposure when no light is emitted from the strobe. External

*light has a different spectral sensitivity than a strobe light. Therefore, by correcting the*

*AWB control value, the difference in spectral sensitivities is also corrected.*

*Regarding **Claim 29**, Kitajima teaches of an image sensing apparatus including a*

*controller of claim 15, (Figure 1).*

*With regard to **Claim 30**, Kitajima teaches of a computer readable medium*

*(memory card 8) for storing a program which has a program code for implementing a*

*control method of claim 1, and can be executed by an information processing apparatus*

*(The memory card 8 can be executed by an information processing apparatus, such as*

*the camera from Figure 1. Data can be input from the memory card 8 into the camera to*

*implement a control method in the CPU 12, **Column 5, Lines 41-45**).*

*In regard to **Claim 31**, Kitajima teaches of a computer readable medium for*

*storing a program, which can be executed by an information processing apparatus, that*

*makes the information processing apparatus, which executes the program, function as a*

*controller of claim 15 (The memory card 8 can be executed by an information*

*processing apparatus, such as the camera from Figure 1. Data can be input from the*

*memory card 8 into the camera to implement a control method in the CPU 12, **Column***

***5, Lines 41-45**).*

## Conclusion

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action.  In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action.  In no event, however, will the statutory period for reply expire later

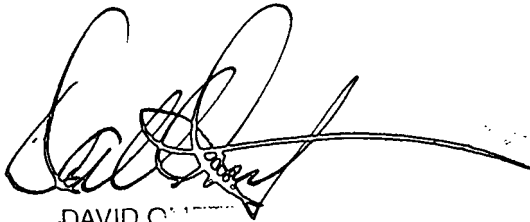than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Pritham Prabhakher whose telephone number is 571-

270-1128.  The examiner can normally be reached on M-F (7:30-5:00) Alt Friday's Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Ometz can be reached on (571)272-7593.  The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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SUPERVISORY PATENT EXAMINER